

Glossary



atmosphere

The gaseous component of the Earth system. The mass of air surrounding the Earth.

AVHRR

Advanced Very High Resolution Radiometer. An instrument carried on NOAA polar-orbiting satellites; it observes the Earth's surface in the visible through thermal infrared regions with a pixel size of 1.1 km.

biogeochemical

Refers to the chemical interactions between the living ("bio") and physical ("geo") components of the Earth system, as in biogeochemical cycles of carbon, nitrogen, etc.

biomass

The dry weight of vegetation above a unit area of ground, often reported as grams (dry weight) per square meter.

biome

A major ecological community type (as grassland or desert).

biometrics

The statistical study of biological data.

biometry

The process of making biological measurements

biosphere

The living component of the Earth system, along with the gaseous (atmosphere), liquid (hydrosphere), and solid (geosphere) components.

canopy cover

The amount of canopy foliage above a given portion of ground is the canopy cover. This will determine the amount of sunlight that reaches that portion of ground.

classification

Sorting a group of items into well-defined and distinct subsets according to specific criteria.

clinometer

A clinometer is an instrument for measuring the angle of a change in height or elevation.

criteria

Decision rules that are used to determine into which subset an item is placed during a classification.

densiometer

A device for determining the percentage of canopy closure in a wooded environment.

dichotomous

This is a branching decision tree (decoder) characterized by successive forking into two approximately equal and contradictory divisions, which ultimately leads to only one correct outcome.

difference/error matrix

A graphic method of comparing two data sets for validation.

evapotranspiration

The return of water to the atmosphere by evaporation (from solar energy) and transpiration (plant activity.)

genus (pl. Genera)

This is an inclusive category whose species have more characteristics in common with each other than with species of other genera. Genera, therefore, are collections of closely related species.

geosphere

The solid component of the Earth system; e.g. rocks, soil, etc.

gradient

The rate of change in a measured quantity over space or time.

ground cover

The amount of ground-level vegetation covering a given area. (For the GLOBE program, “ground level” is defined as “below the observer’s knees.” Ground cover is expressed as a percentage. E.g. 30% ground cover means that, viewed from above, 30% of the ground surface is obscured by ground-level vegetation.

hydrosphere

The liquid component of the Earth system; e.g. oceans, lakes, rivers, etc.

multitemporal

Viewed from more than one point in time.

NOAA

The National Oceanic and Atmospheric Administration.

perennating organs

Parts of plants that live over from one season to another (tubers, rhizomes.)

perturbations

A disturbance in the normal functioning of a system.

phenology

The study of changes over time in an environmental setting.

photointerpretation

The production of a land cover map or identification of specific features by visual inspection of an aerial photo or satellite image.

photosynthetic potential

The maximum amount of biomass that can be produced in an area.

physiological

Characteristic of, or appropriate to, an organism’s healthy or normal functioning.

primary productivity

The rate at which organic material is produced by photosynthesis at a given location. Often represented as grams (dry weight) of Carbon per m² per year.

senescence

The plant growth phase from full maturity to death that is characterized by a loss in dry weight.

species

This is a group of individual plants/ animals that is fundamentally alike.

TM

Thematic Mapper. Carried aboard the Landsat 4 and 5 satellites, this instrument is designed to study surface features in 7 bands covering the visible through thermal infrared regions with a pixel resolution of 30 m in 6 bands and 120 m in the thermal infrared band.

validation data

Data necessary to assess the accuracy of a land cover map produced by manual or electronic means.